

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Kenichi Senda et al.

Group Art Unit: 1796

Serial Number: 10/533,381

Examiner: Kriellion A. Sanders

Filed: June 2, 2006

For: PNEUMATIC TIRE

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patent and Trademark Office

P.O. Box 1450

Alexandria, Virginia 22313-1450

Sir,;

1. Kenichi Senda, citizen of Japan, duly deposes and says:
2. That he has graduated from Osaka University, Japan, in the year of 1971 and finished his master in Applied Chemistry in 1973;
3. That he has been employed in his capacity since 1973 by KANEKA CORPORATION.;
4. That he has been engaged in research and development on a resin;
5. That he has read and is familiar with the instant application for United States Letters Patent and Office Action thereto mailed June 11, 2008.; and
6. That he has made an experiment (1) in order to show the variations of flexural modulus of copolymers of PHBV and PHBH in accordance with variation of molar ratio of

3-hydroxyvalylate monomer in PHBV and 3-hydroxyhexanoate in PHBH and an experiment (2) in order to show the reduction of molecular weight in a case of preparing PHA latex in water and in water-soluble liquid and water.

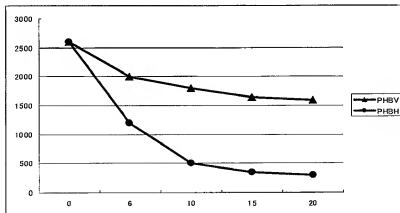
Experiment (1)

According to the detailed processes described in Examples and Comparative Examples in the specification of USSN 10/533,381, copolymers PHBH having various molar ratio of 3-hydroxyhexanoate monomer and PHBV having various molar ratio of 3-hydroxyvalylate monomer were produced, and the flexural modulus of the obtained copolymers were measured by the method described in the said specification.

The result is shown in the following:

Ratio*	0	6	10	15	20
PHBV	2600	2000	1800	1650	1600
PHBH	2600	1200	500	350	300

*in PHBV, molar ratio of 3-hydroxyvalylate monomer
in PHBH, molar ratio of 3-hydroxyhexanoate



X axis: molar ratio of 3-hydroxyvalylate monomer in PHBV

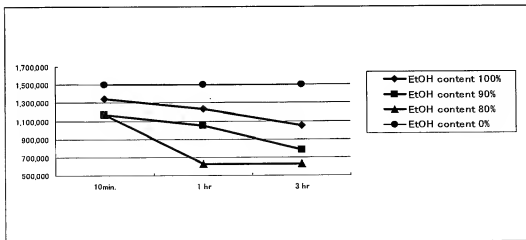
molar ratio of 3-hydroxyhexanoate in PHBH

Y axis: flexural modulus

Experiment (2)

PHBH (purity: 98%, molecular weight: 1500,000, 3HH:6.5%) was washed twice with ethanol and dispersed in aqueous state using only water and dispersed in a mixture of water and ethanol in various ratio to be made in partially agglomerated according to the process steps disclosed in the said specification of USSN 10/533,381, and then the resultants were stirred with a motor under heating at 80°C. At the specific time after stirring, reduction of molecular weight of the PHBH were measured. The result is shown below:

EtOH/H ₂ O	10 min	1 hr	3hr
	after reaching 80°C	after reaching 80°C	after reaching 80°C
10/0	1350,000	1230,000	1050,000
9/1	1170,000	1050,000	780,000
8/2	1170,000	630,000	630,000
0/10	1500,000	1500,000	1500,000



X axis: holding time after reaching 80°C

Y axis: molecular weight

Discussion

As shown in Experiment (1), PHBH of the invention of the said showed lower flexural modulus as compared with PHBV.

As shown in Experiment (2), molecular weight of the copolymers of PHBH were reduced when it was dispersed in a liquid containing ethanol, while no molecular weight reduction was observed in a dispersion of only water.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This *8th* day of *August*, *2008*

by *Kenichi Senda*

Kenichi Senda